

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

Page 13, lines 14-24 to page 14, lines 1-4:

In addition, in accordance with the edge direction v_c for the target pixel P_c calculated as described above, the edge direction processing unit 5 sets a predetermined number of sampling points $P-2$, $P-1$, P_1 $P+1$, and P_2 $P+2$ based on a sampling pitch in the image data $D1$ from the sampling points for the target pixel P_c on a line in the edge direction v_c . In addition, pixel values of the sampling points $P-2$, $P-1$, P_1 $P+1$, and P_2 $P+2$ and the target pixel P_c are calculated by an interpolation operation using pixel values of the image data $D1$. Accordingly, in accordance with detection results of the edge detection unit 2, interpolated image data in the edge direction based on interpolation processing for the input image data $D1$ is generated on the line extending in the edge direction v_c for each pixel of the output image data $D2$.

Page 14, lines 5-24:

In addition, in accordance with a calculation result of ~~an edge direction range determination unit 6~~, an edge direction processing range determination unit 6, which will be described below, the number of sampling points set as described above is changed, and the subsequent filtering processing is changed. Thus, the number of taps for the filtering processing is changed in accordance with reliability of an edge in the edge direction v_c of the target pixel. More specifically, for example, in a case where the subsequent filtering processing is performed based on 3-tap filtering, a pixel value of the target pixel P_c is calculated by linear interpolation using the peripheral pixels $P3$, $P4$, $P9$, and $P10$, and pixel values of the previous and subsequent sampling points $P-1$ and $P1$ are calculated by linear interpolation using $P2$, $P3$, $P8$, and $P9$; and $P4$, $P5$, $P10$, and $P11$, respectively. In contrast, in a case where the subsequent filtering processing

is performed based on 5-tap filtering, a pixel value of the target pixel P_c is calculated by linear interpolation using the peripheral pixels P_3 , P_4 , P_9 , and P_{10} , and pixel values of the sampling points P_{-2} , P_{-1} , P_{+1} , and P_{+2} are calculated in a similar way.

Page 14, line 25 to page 15, lines 1-7:

Then, the edge direction processing unit 5 smoothes the calculated pixel values of the sampling points P_{-2} , P_{-1} , P_{+1} , and P_{+2} and the target pixel P_c by filtering processing, and determines a pixel value P'_c of the target pixel P_c . In other words, for 3-tap filtering, for example, the pixel value P'_c of the target pixel P_c is calculated by arithmetic processing represented by the following condition:

$$P'_c = 0.25 \times P_{-1} + 0.5 \times P_c + 0.25 \times P_{+1} \quad \text{.....(10).}$$